

Appln No. 09/636,000

Amdt date January 2, 2004

Reply to Office action of October 1, 2003

Amendments to the Specification:

The Abstract has been amended as follows:

**MAXIMUM LIKELIHOOD SEQUENCE ESTIMATOR WHICH
COMPUTES BRANCH METRICS IN REAL TIME**

ABSTRACT OF THE DISCLOSURE

A1
An improved method and apparatus for Viterbi Algorithm calculations for maximum likelihood sequence estimators in communication receivers is disclosed. The calculations for the maximum likelihood sequence estimator, in accordance with the invention, utilizes a variant of the Viterbi algorithm developed by Ungerboeck in which the associated branch metric calculations for the trellis require the computation of a set of branch metric parameters. An embodiment of the present invention provides for an improved recursive method and apparatus for calculation of the branch metric parameters that reduces the number of processor clock cycles required per state metric calculation. This enables real time computation of the branch metric parameters during execution of the Viterbi Algorithm.

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